

(19) World Intellectual Property
Organization
International Bureau



(43) International Publication Date
15 July 2004 (15.07.2004)

PCT

(10) International Publication Number
WO 2004/059142 A1

(51) International Patent Classification⁷: **F01P 7/16,**
F04D 29/46, 29/56, 29/22

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(21) International Application Number:
PCT/CA2003/002017

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(22) International Filing Date:
30 December 2003 (30.12.2003)

(81) Designated States (*national*): AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW.

(25) Filing Language: English

(26) Publication Language: English

(30) Priority Data:
10/330,108 30 December 2002 (30.12.2002) US

(84) Designated States (*regional*): ARIPO patent (BW, GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian patent (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European patent (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, RO, SE, SI, SK, TR), OAPI patent (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

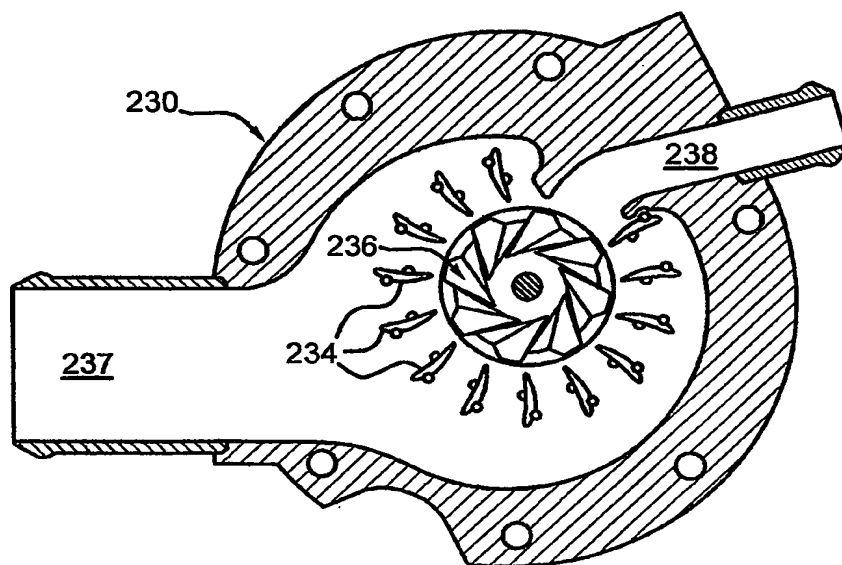
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(54) Title: THERMAL CONTROL OF FLOWRATE IN ENGINE COOLANT SYSTEM



(57) Abstract: An impeller pump with thermostatically adjustable swirl-vanes, in use as an automotive engine-driven coolant pump. Flow variation is controlled by varying the orientation of the swirl-vanes. A change in orientation is effected by a thermal driver, e.g. a wax-type thermostat, which senses coolant temperature. The swirl-vanes boost the flowrate when the coolant is hot, and decrease it when the coolant cools. The swirl-vanes are mounted for pivoting, and are located just upstream from the pump impeller. The traditional engine-thermostat function is provided inside the pumping-chamber, in that the swirl-vanes can be operated to close off a port to the engine radiator. The thermal driver opens the radiator-port as the coolant goes from Cold to Warm; as the coolant goes from Warm to Hot, the thermal driver operates the swirl-vanes from flow-reduce to flow-boost.

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